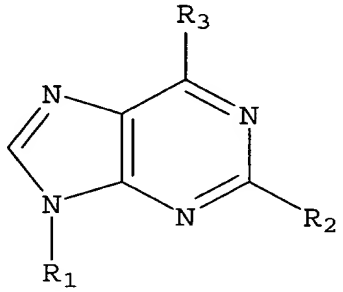
IN THE CLAIMS

1 (Currently Amended). A method for activating natural killer (NK) cells in ~~an individual~~a human being comprising administering said individual ~~with~~ an effective amount of one or more adenosine A3 receptor agonists (A3RAg), so as to fully or partially activate adenosine A3 receptors on said NK cells and so as to achieve activation of said NK cells.

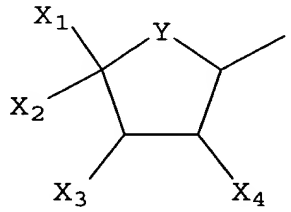
2 (Currently Amended). The method of Claim 1, wherein said A3RAg is a compound of the general formula (I):



(I)

wherein,

**$R_1$** represents an alkyl, hydroxyalkyl, carboxyalkyl or cyanoalkyl or a group of the following general formula (II):



(II)

in which:

- **Y** represents an oxygen~~,~~ or sulfur ~~of carbon~~ atom or $CH_2$;

- $X_1$ represents H, alkyl, $R^aR^bNC(=O)$- or $HOR^c$-,

wherein

- $R^a$ and $R^b$ may be the same or different and are selected from the group consisting of hydrogen, alkyl, amino, haloalkyl, aminoalkyl, BOC-aminoalkyl, and cycloalkyl or are joined together to form a heterocyclic ring containing two to five carbon atoms; and

- $R^c$ is selected from the group consisting of alkyl, amino, haloalkyl, aminoalkyl, BOC-aminoalkyl, and cycloalkyl;

- $X_2$ is H, hydroxyl, alkylamino, alkylamido or hydroxyalkyl;

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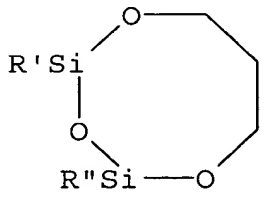
- $X_3$ and $X_4$ represent independently hydrogen, hydroxyl, amino, amido, azido, halo, alkyl, alkoxy, carboxy, nitrilo, nitro, trifluoro, aryl, alkaryl, thio, thioester, thioether, -OCOPh, -OC(=S)OPh or both $X_3$ and $X_4$ are oxygens connected to >C=S to form a 5-membered ring, or $X_2$ and $X_3$ form the ring of formula (III):




(III)

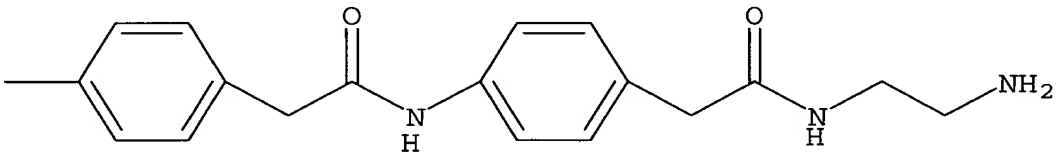
where **R'** and **R''** represent independently an alkyl group;

- $R_2$ is selected from the group consisting of hydrogen, halo, alkylether, amino, hydrazido, alkylamino, alkoxy, thioalkoxy, pyridylthio, alkenyl; alkynyl, thio, and alkylthio; and

- **$R_3$** is a group of the formula $-NR_4R_5$ wherein

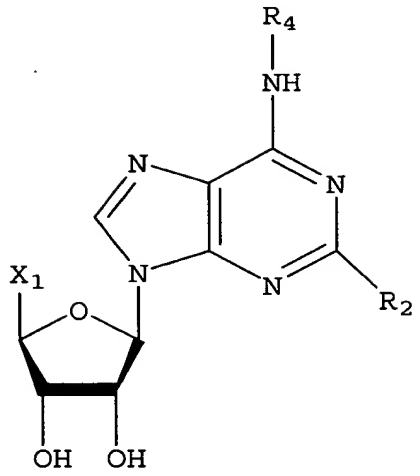
- **$R_4$** is a hydrogen atom or a group selected from alkyl, substituted alkyl or aryl-NH-C(Z)-, with **Z** being O, S, or $NR^a$ with **$R^a$** having the above meanings; wherein when $R_4$ is hydrogen than

- **$R_5$** is selected from the group consisting of R- and S-1-phenylethyl, benzyl, phenylethyl or anilide groups unsubstituted or substituted in one or more positions with a substituent selected from the group consisting of alkyl, amino, halo, haloalkyl, nitro, hydroxyl, acetoamido, alkoxy, and sulfonic acid or a salt thereof; benzodioxanemethyl, fururyl, L-propylalanyl-aminobenzyl, β-alanylamino-benzyl, T-BOC-β-alanylaminobenzyl, phenylamino, carbamoyl, phenoxy or cycloalkyl; or **$R_5$** is a group of the following formula:




or when **$R_4$** is an alkyl or aryl-NH-C(Z)-, then, **$R_5$** is selected from the group consisting of heteroaryl-$NR^a$-C(Z)-, heteroaryl-C(Z)-, alkaryl-$NR^a$-C(Z)-, alkaryl-C(Z)-, aryl-NR-C(Z)- and aryl-C(Z)-; **Z** representing an oxygen, ~~sulfor~~sulfur or amine; or a pharmaceutically acceptable salt of the above compound.

3 (Original). The method of Claim 2, wherein said A3RAg is a nucleoside derivative of the general formula (IV):



(IV)

wherein $X_1$, $R_2$ and $R_4$ are as defined in Claim 2.

4 (Currently Amended). The method of Claim 3, wherein A3RAg is selected from the group consisting of $N^6$-2-(4-aminophenyl)ethyladenosine (APNEA), $N^6$-(4-amino-3- iodobenzyl) adenosine-5'-(N-methyluronamide) (AB-MECA) and $N^6$- (2-iodobenzyl)-adenosine-5'-N-~~methly~~methyl-uronamide (IB-MECA) and 2-chloro-$N^6$-(2-iodobenzyl)-adenosine-5'-N-~~methyl uronamide~~ methyluronamide (Cl-IB-MECA).

A2 contd

5 (Original). The method of Claim 4, wherein A3RAg is IB-MECA or Cl-IB-MECA.

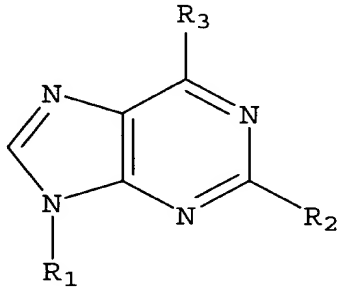
6 (Original). The method of Claim 1, wherein said A3RAg is $N^6$-benzyladenosine-5'-N- alkyluronamide-$N^1$-oxide or $N^6$-benzyladenosine-5'-N-dialkyluronamide-$N^1$-oxide, both optionally substituted at the 2-purine position with an alkoxy, amino, alkenyl, alkynyl or halogenoxide group.

7 (Original). The method of Claim 1 wherein said A3RAg is administered orally to said individual.

8 (Original). The method of Claim 1, wherein said A3RAg is injected to said individual.

9 (Currently Amended). A method for ~~a~~ the therapeutic treatment of a disease which is sensitive to activated NK cells, comprising administering to ~~an individual~~ a human being in need thereof, one or more ~~A3RAg~~ adenosine A3 receptor agonists (A3RAg) in an amount effective for achieving a therapeutic effect, the therapeutic effect ~~comprises~~ comprising activation of NK cells in said individual, wherein said therapeutic treatment relates to treatment of tumor cells, malignant and infectious diseases, immunoregulation, hematopoiesis, reproduction and neuroendocrine interactions. Restrict Groups.

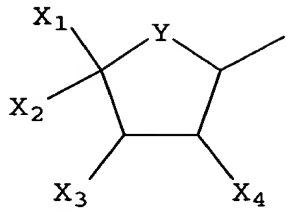
10 (Currently Amended). The method of Claim 9, wherein said A3RAg is a compound of the general formula (I):



(I)

wherein,

- $R_1$ represents an alkyl, hydroxyalkyl, carboxyalkyl or cyanoalkyl or a group of the following general formula (II):




(II)

in which:

- **Y** represents an oxygen~~,~~ or sulfur ~~of carbon~~ atom or $CH_2$;

- $\mathbf{X_1}$ represents H, alkyl, $R^aR^bNC(=O)$- or $HOR^c$-, wherein

- $\mathbf{R^a}$ and $\mathbf{R^b}$ may be the same or different and are selected from the group consisting of hydrogen, alkyl, amino, haloalkyl, aminoalkyl, BOC-aminoalkyl, and cycloalkyl or are joined together to form a heterocyclic ring containing two to five carbon atoms; and

- $\mathbf{R^c}$ is selected from the group consisting of alkyl, amino, haloalkyl, aminoalkyl, BOC-aminoalkyl, and cycloalkyl;

- $\mathbf{X_2}$ is H, hydroxyl, alkylamino, alkylamido or hydroxyalkyl;

- $\mathbf{X_3}$ and $\mathbf{X_4}$ represent independently hydrogen, hydroxyl, amino, amido, azido, halo, alkyl, alkoxy, carboxy, nitrilo, nitro, trifluoro, aryl, alkaryl, thio, thioester, thioether, -OCOPh, -OC(=S)OPh or both $\mathbf{X_3}$ and $\mathbf{X_4}$ are oxygens connected to >C=S to form a 5-membered ring, or $\mathbf{X_2}$ and $\mathbf{X_3}$ form the ring of formula (III):

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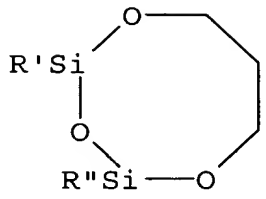


(III)

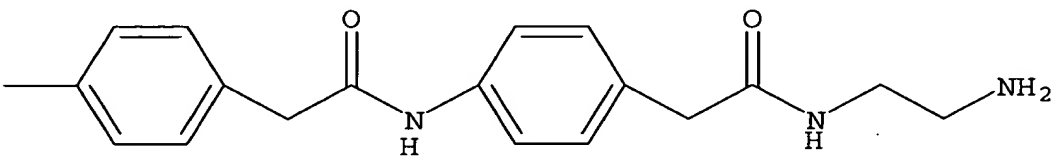
where **R'** and **R''** represent independently an alkyl group;

- $R_2$ is selected from the group consisting of hydrogen, halo, alkylether, amino, hydrazido, alkylamino, alkoxy, thioalkoxy, pyridylthio, alkenyl; alkynyl, thio, and alkylthio; and

- $R_3$ is a group of the formula $-NR_4R_5$ wherein

- $R_4$ is a hydrogen atom or a group selected from alkyl, substituted alkyl or aryl-NH-C(Z)-, with **Z** being O, S, or $NR^a$ with $R^a$ having the above meanings; wherein when $R_4$ is hydrogen than

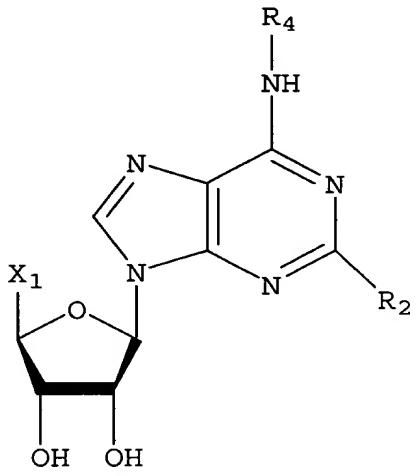
- $R_5$ is selected from the group consisting of R- and S-1-phenylethyl, benzyl, phenylethyl or anilide groups unsubstituted or substituted in one or more positions with a substituent selected from the group consisting of alkyl, amino, halo, haloalkyl, nitro, hydroxyl, acetoamido, alkoxy, and sulfonic acid or a salt thereof; benzodioxanemethyl, fururyl, L-propylalanyl-aminobenzyl, β-alanylamino-benzyl, T-BOC-β-alanylaminobenzyl, phenylamino, carbamoyl, phenoxy or cycloalkyl; or $R_5$ is a group of the following formula:



A22 cont'd

or when $R_4$ is an alkyl or aryl-NH-C(Z)-, then, $R_5$ is selected from the group consisting of heteroaryl-$NR^a$-C(Z)-, heteroaryl-C(Z)-, alkaryl-$NR^a$-C(Z)-, alkaryl-C(Z)-, aryl-NR-C(Z)- and aryl-C(Z)-; **Z** representing an oxygen, ~~sulfor~~sulfur or amine; or a pharmaceutically acceptable salt of the above compound.

11 (Original). The method of Claim 10, wherein said A3RAg is a nucleoside derivative of the general formula (IV):



(IV)

wherein $X_1$, $R_2$ and $R_4$ are as defined.

12 (Currently Amended). The method of Claim 11, wherein said A3RAg is selected from the group consisting group consisting of $N^6$-2-(4-aminophenyl)ethyladenosine (APNEA), $N^6$-(4-amino-3- iodobenzyl)-adenosine-5'-(N-methyluronamide) (AB-MECA) and $N^6$-(~~2~~3-iodobenzyl)-adenosine-5'-N-~~methlyuronamide~~ methyluronamide (IB-MECA) and 2-chloro-$N^6$-(~~2~~3-iodobenzyl)-adenosine-5'-N-methyluronamide~~methlyuronamide~~ (Cl-IB-MECA).

13 (Original). The method of Claim 12, wherein said A3RAg is Cl-IB-MECA.

14 (Original). The method of Claim 9, wherein said A3RAg is $N^6$-benzyladenosine-5'-N-alkyluronamide-$N^1$-oxide or $N^6$-benzyladenosine-5'-N-dialkyluronamide-$N^1$-oxide, both optionally substituted at the 2-purine position with an alkoxy, amino, alkenyl, alkynyl or halogenoxide group.

15 (Original). The method of Claim 9, wherein said A3RAg is orally administered to said individual.

16 (Original). The method of Claim 9, wherein said A3RAg is injected to said individual.

17-35 (Cancelled)

A22 concl'd

36 (New). A method in accordance with Claim 9, wherein said disease is associated with malignant cells.

37 (New). A method in accordance with Claim 9, wherein said disease is associated with cells infected with viruses, bacteria or protozoa.